



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/751,530	01/06/2004	Junichi Komagata	SON-2895	3306
23353 7590 08/08/2007 RADER FISHMAN & GRAUER PLLC LION BUILDING 1233 20TH STREET N.W., SUITE 501 WASHINGTON, DC 20036			EXAMINER SOL, ANTHONY M	
			ART UNIT 2616	PAPER NUMBER
			MAIL DATE 08/08/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/751,530

Applicant(s)

KOMAGATA ET AL.

Examiner

Anthony Sol

Art Unit

2616

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 January 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 May 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pub. No. 2004/0114516 A1 ("Iwata") in view of U.S. Patent No. 7,039,063 B2 ("Krishnakumar").

Regarding claims 1 and 4,

Iwata shows in fig. 5A transmitting a plurality of real time streams ("premium packet") and a non-real time stream ("low priority packet") over a common transmission path.

Iwata shows in fig. 3 storing means 21, 22 for storing first packets ("premium packet") that compose the real time streams and second packets ("low priority packet") that compose the non-real time stream.

Iwata further shows in fig. 3 transmitting means 2, 3, 5 for transmitting the first packets stored in the storing means at predetermined intervals T (fig. 5).

Iwata discloses transmitting the second packets when the transmission intervals of the first packets are longer than the transmission times of the second packets (see Iwata, para. 36, *If the packet queued last in the scheduling queue 31 is a "low priority*

Art Unit: 2616

packet", the scheduler section 3 checks whether or not the transmission end time of the "low priority packet" is earlier than the transmission start time of the received "premium packet" based on the transmission start time and the packet length of the "low priority packet" (in steps 106 and 107). If the check result shows that the transmission end time of the "low priority packet" is earlier than the transmission start time of the received "premium packet" (YES in the step S107), the scheduler section 3 queues, as one piece of data, information representing that the packet is a "premium packet", the transmission start time information and information on the length of the packet, at the end of the scheduling queue 31 (in steps 107 and 105)).

Iwata does not show transmitting a first packet whose transmission end time is the earliest in the first packets when the transmission times of the first packets overlap.

Krishnakumar shows in fig. 5, transmitting first packet RT1 whose transmission time is the earliest of group of real time packets RT1-RT4, in which the transmission times overlap.

It would have been *prima facie* obvious to one of ordinary skill in the art at the time of the invention was made to modify the packet scheduling apparatus of Iwata to include the scheduling of real time packets as taught by Krishnakumar. One skilled in the art would have been motivated to make the combination to avoid collisions in the transmission path.

Regarding claims 2 and 5,

Iwata does not explicitly disclose that the transmitting means is configured to calculate the transmission end times, transmission intervals, and transmission times of the first packets.

Krishnakumar shows in fig. 3, transmission end time t_{25} , in fig. 5 transmission intervals t_{access} , and in fig. 3, transmission times $t_{25}-t_{23}$.

It would have been *prima facie* obvious to one of ordinary skill in the art at the time of the invention was made to modify the packet scheduling apparatus of Iwata to include various real-time packet time measurements as taught by Krishnakumar. One skilled in the art would have been motivated to make the combination by using the measurements to avoid collisions in the transmission path.

Regarding claims 3 and 6,

Iwata discloses that the "low priority packet" which influences the transmission of the "premium packet" is divided into a plurality of packets each having a length which falls within a transmission interval of the "premium packet" by the packet dividing section 4, and scheduled dynamically based on the transmission interval or load state of the "premium packet" (see abstract).

Iwata further discloses that if the transmission end time of the "low priority packet" is later than the transmission start time of the received "premium packet" (NO in the step 107), the scheduler section 3 divides the "low priority packet" into a plurality of packets each having a packet length enabling transmission based on the header format specification of each divided packet which is obtained by the

Art Unit: 2616

packet division as specified by RFC791 (see para. 36).

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

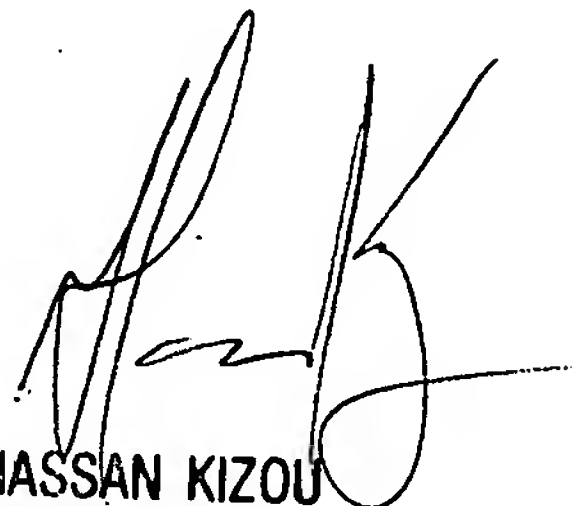
Hamai (US6122280) teaches packet output device and method.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anthony Sol whose telephone number is (571) 272-5949. The examiner can normally be reached on M-F 7:30am - 4pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on (571) 272-3088. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2616

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



HASSAN KIZOU
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600

AMS

8/3/2007